REMARKS

The application presently contains claims 1-13. By the present amendment claims 1 and 4-13 have been amended.

The Examiner rejected claim 12 under 35 U.S.C. §112, second paragraph, and §101 stating that the claim provides for use of a polyisocyanate, however, it does not set forth any steps in the method or process. Claim 12 has been amended to recite addition of the polyisocyanate to a paint, to a varnish, to a coating, to an adhesive, to a sealant, to a pourable elastomer, or to a foam. Thus, the rejections of claim 12 under 35 U.S.C. §112, second paragraph, and §101 are believed to be overcome and the rejection should be withdrawn.

The Examiner rejected claims 4-11 and 13 under 35 U.S.C. §112, second paragraph. Claim 4 was rejected stating the species should be recited in the alternative. Claim 4 has been amended to recite the species in the alternative, thus this rejection should be withdrawn.

The Examiner rejected claim 5 for use of the language "from among", use of the term "oligoisocyanates", use of the term "higher homologues", and for multiple occurrences of the terms "and" and "or" within the listing of the species. Claim 5 has been amended to remove the phrase "from among" and the multiple occurrences of "and" and "or" within the species. Claim 5 has also been amended to remove "oligoisocyanates" and to make it clear that what is contemplated is an addition product of an isocyanate with urethane, allophanate, urea, biuret, uretdione, amide, isocyanurate, carbodiimide, uretonimine, oxadiazinetrione or iminooxadiazinedione structures, or mixtures thereof. Support for this amendment is found on page 4, lines 29-33. Claim 5 has also been amended to remove "higher homologues" the term

"polymeric" has replaced it. Support for this amendment is found on page 4, lines 37-38. In summary, claim 5 has been amended to overcome all rejections under 35 U.S.C. §112, second paragraph, thus this rejection should be withdrawn.

The Examiner rejected claim 6 based on use of the term "preferably", the term has been removed, thus this rejection should be withdrawn.

The Examiner rejected claim 7 for use of the phrase "from among". The phrase has been removed, thus this rejection should be withdrawn.

The Examiner rejected claim 8 for use of the terms "higher homologues" and "hexamethylene diisocyanate oligomer mixture". The claim has been amended to remove the phrases and replace them with more accurate language. Support for the amendments is found on page 3, lines 40-41 and page 4, lines 40-42, respectively.

The Examiner rejected claim 9 based on multiple occurrences of the terms "and" and "or" within the listing of the species and use of the language "higher alkoxylation products". The terms have been amended, thus this rejection should be withdrawn.

The Examiner rejected claims 10 and 11 for use of the phrase "can be", the phrase has been removed, thus the rejections should be withdrawn.

The Examiner rejected claim 13 for use of the phrase "obtainable", the phrase has been removed, thus the rejection should be withdrawn.

The Examiner further rejected claims 1, 2, and 4-13 under 35 U.S.C. § 102 (b) or (e) as anticipated; or in the alternative as obvious under 103 (a) in view of Bauriedel '709 or Bolte et al. '164. The Examiner points to the abstract and columns 2-5 of Bauriedel. The Examiner points to the abstract and columns 2-4 of Bolte et al. The Examiner's position is that the

references disclose preferred ratios of hydroxyl groups to initial isocyanate groups that will yield Applicant's claimed addition product A. The Examiner stresses the references disclose trifunctional or higher polyols.

The teachings of Bauriedel are best summarized in the Abstract; column 2, lines 12-27 and 57-64; and column 5, lines 1-4. There are recited in order as follows:

> Polyurethane prepolymers in which polyhydric alcohols are initially reacted with the faster reacting isocyanate group of an asymmetrical diisocyanate with the slowly reacting group remaining intact, after which the reaction products are combined with a symmetrical diisocyanate of which the equally reactive isocyanate groups again react more quickly than the slowly reacting groups of the first polyfunctional isocyanate compound...
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> ...in a first reaction step, a first category of isocyanate which is a diisocyanate having isocyanate moieties of differing reactivity is reacted with a polyhydric alcohol in an OH:NCO ratio of 0.55-4:1 until virtually all of the faster-reacting of the two isocyanate moieties have been reacted with OH moieties, forming a first stage prepolymer having a substantial number of free OH moieties attached through the alcohol nucleus; and in a second reaction step, a second category of isocyanate which has at least one isocyanate moiety which is more reactive than the less reactive isocyanate moiety of the first category, and which is preferably also a diisocyanate, is reacted with the remaining (free) OH moieties of the first stage prepolymer, in an equimolar quantity or in slight excess of isocyanate to those remaining (free) OH moieties.
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> According to the invention, a polyhydric alcohol is reacted with an equivalent quantity or an excess of an monocyclic diisocyanate (i.e., first category of diisocyanate) in a first reaction step until the more reactive NCO moieties of the diisocyanate has reacted almost completely with some of the available OH moieties without the less reactive NCO moieties having reacted to any significant extent, if at all.
>
> ...prepolymers which still contain free OH moieties after the more reactive NCO moieties have reacted off of one with the ratio of OH moieties to isocyanate moieties is adjusted to 0.55-4:1, preferably 0.6-1:1.

Thus, Bauriedel clearly teaches that one must first use an asymmetric diisocyanate and react this in a ratio to the OH groups such that a substantial number of OH groups are left free and all of the most reactive NCO groups are reacted. Thus, even at the lowest ratio of 0.55:1 of OH groups to NCO groups one will still be left with a situation where a substantial number of OH groups are free, and the compound only contains a single free NCO group. The other ratios disclosed in this patent provide even higher levels of OH thus absolutely ensuring that there will be a substantial number of free OH groups and only a single free NCO group after the first reaction. This is completely unlike what is required in claim 1 of the present application which requires that there be only one group reactive toward isocyanate and at least two free isocyanate groups following reaction with the first diisocyanate or polyisocyanate 1. In a second step Bauriedel teaches reacting the reaction product from the first step with a symmetrical isocyanate having groups that are still more reactive than the slow reactive group of the first isocyanate. This is also unlike the present application which does not have any such restrictive teachings. In summary, the present application includes limitations that are not found within Bauriedel nor are they obvious from Bauriedel. Bauriedel contains no teaching, suggestion, or motivation that would lead one of ordinary skill in the art to completely disregard its teachings and lead to the present invention as claimed in claim 1. Thus, the rejection of claim 1 under 35 U.S.C. § 102 or 35 U.S.C. § 103 based on Bauriedel is improper and should be withdrawn.

Bolte et al. is even further from the present invention, as has been discussed in the past. In the Abstract Bolte et al. teaches that the ratio of the NCO groups of the slower reacting diisocyanate to the NCO groups of the faster reacting diisocyanate must be in a ratio that is greater than 6:1. The language describing the invention of Bolte et al. is surprisingly similar to

that found in Bauriedel. The Examiner is specifically directed to column 3, lines 13-15, and 17-22 wherein it is stated:

> Accordingly, the first diisocyanate is a non-symmetrical diisocyanate containing two NCO groups differing in their reactivity ... the second diisocyanate is a symmetrical isocyanate, preferably a dicyclic diisocyanate. It is important that the reactivity of its isocyanate groups to hydroxyl groups is higher than that of the terminal isocyanate groups of the non-symmetrical diisocyanate reacted on one side (reactive diluent).

The Examiner is further directed to column 3, lines 36-55, which state the following:

> In a first reaction step, the diisocyanates containing NCO groups differing in their reactivity (non-symmetrical diisocyanates) are reacted with polyhydric alcohols in an OH:NCO ratio of 4 to 0.55:1 and, after virtually all the fast NCO groups have reacted off with some of the OH groups present, a diisocyanate (symmetrical diisocyanate) more reactive than the slowly reacting NCO groups of the isocyanate from reaction step 1 is added in a second reaction step in less than the equivalent quantity, based on free OH groups.

Like Bauriedel, Bolte et al. teaches that in the first step the isocyanate reactive compound is reacted with a diisocyanate in a ratio such that there will be a substantial number of free OH groups left after the first reaction step and in addition there will only be a single free NCO group not at least two as required by the claims of the present invention. The Examiner can point to no teaching, suggestion, or motivation within the reference that would lead of ordinary skill in the art to modify the disclosed procedure in order to produce the invention as claimed in claim 1 of the present application. Absent such a teaching, suggestion or motivation, the present invention is also not obvious based on the disclosure of Bolte et al. In summary, claim 1 of the present invention includes limitations neither found in nor made obvious on the

basis of Bolte et al. Thus a rejection of these claims under 35 U.S.C. § 102 or 35 U.S.C. § 103 based on Bolte et al. is improper and should be withdrawn.

Applicants' attorney respectfully submits that the claims as amended are now in condition for allowance and respectfully requests such allowance.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that the enclosed Amendment, Petition and fee are being deposited with the United States Postal Service, postage prepaid, in an envelope addressed to the Commissioner of Patents, PO Box 1450, Alexandria, VA 22313-1450, on **October 14, 2003.**

Christine M. Wolfe

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